

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source

Date Processed by STIC:

10/797,333

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT

MARK SPENCER, TELEPHONE: 703-308-4212; FAX: 703-308-4221 <u>Effective 12/13/03</u>: TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE <u>CHECKER</u>. <u>VERSION 4.1 PROGRAM</u>, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS.

http://www.uspto.gov/web/offices/pac/checker/chkr41note.htm

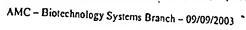
Applicants submitting genetic sequence information electronically on diskelic or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses.

- 1. EFS-Bio (http://www.uspto.gov/ebc/efs/downloads/documents.htm, EFS Submission User Manual cPAVE)
- U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1456.
- Hand Carry directly to (EFFECTIVE 12/01/03):
 U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B/03, Crystal Plaza Two. 2011 South Clark Place, Arlington, VA 22202
- Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office. Box Sequence, Room 1003-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 27202

Revised 10/08/03

Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER 1077 233
ATTN: NEW RULES	CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
Wrapped Nu	cleics The much
wrapped An	was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will
2Invalid Line L	ength The rules require that a line not exceed 72 characters in length. This includes white spaces.
3Misaligned Ar Numbering	The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers:
4Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
5Variable Lengt	Sequence(s)contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some
GPatentIn 2.0 "bug"	A "bug" in Patentln version 2.0 has caused the <220>-<223> section to be missing from amino acid previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> section for Artificial or Unknown sequences.
7Skipped Sequence	es Sequence(s) mission as
(OLD RULES)	(2) INFORMATION FOR SEQ ID NO.X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION: SEQ ID NO. X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped
•	Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
8Skipped Sequence (NEW KULES)	Sequence(s) missing. If Intentional, please insert the following lines for each skipped sequence. <10> sequence id number <400> sequence id number 000
9 Use of n's or Xaa's	Henry of the country
(NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per I.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
10Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or is Artificial Sequence.
11Usc of <220>	Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or (See "Federal Register," 00701/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules) Please do not use "Caputa District Politics of the sequence of the sequence Rules)
12Patentin 2.0 "bug"	Please do not use "Copy to Disk" function of Patentin version 2.0. This causes a corrupted file, listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
13 Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid
	AMC District







IFWO

RAW SEQUENCE LISTING

DATE: 03/22/2004

PATENT APPLICATION: US/10/797,333

TIME: 09:38:36

Input Set : A:\RUBC021USSequenceListing.APP.txt

Output Set: N:\CRF4\03222004\J797333.raw

```
3 <110> APPLICANT: PINTER, JONATHON H.
             KURIHARA, TAKAO
             SLEPTSOVA, IRINA
     5
             BRUENING, ERIC EGON
             ZIEHLER, WILLIAM
     7
             MAKAROV, VLADIMIR L.
    10 <120> TITLE OF INVENTION: IN VITRO DNA IMMORTALIZATION AND WHOLE GENOME
            AMPLIFICATION USING LIBRARIES GENERATED FROM RANDOMLY
    12
            · FRAGMENTED DNA
    14 <130> FILE REFERENCE: RUBC:021US
C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/797,333
    17 <141> CURRENT FILING DATE: 2004-03-08
    19 <150> PRIOR APPLICATION NUMBER: 60/453,071
     20 <151> PRIOR FILING DATE: 2003-03-07
                                                                Does Not Comply
     22 <160> NUMBER OF SEQ ID NOS: 145
                                                                Corrected Diskette Needed
     24 <170> SOFTWARE: PatentIn Ver. 2.1
     26 <210> SEQ ID NO: 1
     27 <211> LENGTH: 20
     28 <212> TYPE: DNA
     29 <213> ORGANISM: Artificial Sequence
     31 <220> FEATURE:
     32 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
              Primer
     35 <400> SEQUENCE: 1
                                                                           20
     36 gagtagaatt ctaatatcta
     39 <210> SEQ ID NO: 2
     40 <211> LENGTH: 20
     41 <212> TYPE: DNA
     42 <213> ORGANISM: Artificial Sequence
     44 <220> FEATURE:
     45 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
              Primer
     46
     48 <400> SEQUENCE: 2
                                                                           20
     49 gagatattag aattctactc
     52 <210> SEQ ID NO: 3
     53 <211> LENGTH: 21
     54 <212> TYPE: DNA
     55 <213> ORGANISM: Artificial Sequence
     57 <220> FEATURE:
    58 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
            Primer
     59
     61 <400> SEQUENCE: 3
                                                                         21
     62 agtgggattc cgcatgctag t
```

RAW SEQUENCE LISTING DATE: 03/22/2004 PATENT APPLICATION: US/10/797,333 TIME: 09:38:36

Input Set: A:\RUBC021USSequenceListing.APP.txt
Output Set: N:\CRF4\03222004\J797333.raw

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65 <210> SEQ ID NO: 4
    66 <211> LENGTH: 12
    67 <212> TYPE: DNA
    68 <213> ORGANISM: Artificial Sequence
    70 <220> FEATURE:
    71 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
    72
             Primer
    74 <400> SEQUENCE: 4
                                                                           12
    75 taactagcat gc
    78' <210> SEQ ID NO: 5
    79 <211> LENGTH: 20
    80 <212> TYPE: DNA
    81 <213> ORGANISM: Artificial Sequence
    83 <220> FEATURE:
    84 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
             Primer
    87 <220> FEATURE:
    88 <221> NAME/KEY: modified_base
    89 <222> LOCATION: (14)..(17)
    90 <223> OTHER INFORMATION: N = A, C, G OR T/U
    92 <400> SEQUENCE: 5
                                                                           20
W--> 93 ttgcggccgc attnnnnttc
    96 <210> SEQ ID NO: 6
     97 <211> LENGTH: 22
     98 <212> TYPE: DNA
     99 <213> ORGANISM: Artificial Sequence
     101 <220> FEATURE:
     102 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     103
     105 <220> FEATURE:
     106 <221> NAME/KEY: modified_base
     107 <222> LOCATION: (11)..(16)
     108 <223> OTHER INFORMATION: N = A, C, G OR T/U
     110 <400> SEQUENCE: 6
                                                                            22
W--> 111 ccgactcgac nnnnnnatgt gg
     114 <210> SEQ ID NO: 7
     115 <211> LENGTH: 21
     116 <212> TYPE: DNA
     117 <213> ORGANISM: Artificial Sequence
     119 <220> FEATURE:
     120 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
     121
               Primer
     123 <220> FEATURE:
     124 <221> NAME/KEY: modified_base
     125 <222> LOCATION: (17)..(21)
     126 <223> OTHER INFORMATION: N = A, C, G OR T/U
     128 <400> SEQUENCE: 7
                                                                             21
W--> 129 tggtagctct tgatcannnn n
     132 <210> SEQ ID NO: 8
```

RAW SEQUENCE LISTING

DATE: 03/22/2004 TIME: 09:38:36

PATENT APPLICATION: US/10/797,333

Input Set : A:\RUBC021USSequenceListing.APP.txt

Output Set: N:\CRF4\03222004\J797333.raw

```
133 <211> LENGTH: 20
    134 <212> TYPE: DNA
    135 <213> ORGANISM: Artificial Sequence
    137 <220> FEATURE:
    138 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
    139
              Primer
    141 <400> SEQUENCE: 8
                                                                            20
    142 agagttggta gctcttgatc
    145 <210> SEQ ID NO: 9
    146 <211> LENGTH: 28
    147 <212> TYPE: DNA
    148 <213> ORGANISM: Artificial Sequence
    150 <220> FEATURE:
    151 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
    152
    154 <220> FEATURE:
    155 <221> NAME/KEY: modified_base
    156 <222> LOCATION: (23)..(28)
    157 <223> OTHER INFORMATION: N = A, C, G OR T/U
     159 <400> SEQUENCE: 9
                                                                            28
W--> 160 gtaatacgac tcactatagg gcnnnnnn
    163 <210> SEQ ID NO: 10
     164 <211> LENGTH: 22
     165 <212> TYPE: DNA
     166 <213> ORGANISM: Artificial Sequence
     168 <220> FEATURE:
     169 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     170
     172 <400> SEQUENCE: 10
                                                                            22
     173 gtaatacgac tcactatagg gc
     176 <210> SEQ ID NO: 11
     177 <211> LENGTH: 18
     178 <212> TYPE: DNA
     179 <213> ORGANISM: Artificial Sequence
     181 <220> FEATURE:
     182 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     183
     185 <400> SEQUENCE: 11
                                                                             18
     186 gtaatacgac tcactata
     189 <210> SEQ ID NO: 12
     190 <211> LENGTH: 14
     191 <212> TYPE: DNA
     192 <213> ORGANISM: Artificial Sequence
     194 <220> FEATURE:
     195 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     196
     198 <220> FEATURE:
     199 <221> NAME/KEY: modified_base
     200 <222> LOCATION: (1)..(2)
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RAW SEQUENCE LISTING DATE: 03/22/2004 PATENT APPLICATION: US/10/797,333 TIME: 09:38:36

Input Set: A:\RUBC021USSequenceListing.APP.txt
Output Set: N:\CRF4\03222004\J797333.raw

```
201 <223> OTHER INFORMATION: N = A, C, G OR T/U
    203 <400> SEQUENCE: 12
  -> 204 nncctatagt gagt
     207 <210> SEQ ID NO: 13
     208 <211> LENGTH: 15
    209 <212> TYPE: DNA
     210 <213> ORGANISM: Artificial Sequence
     212 <220> FEATURE:
    213 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     216 <220> FEATURE:
    217 <221> NAME/KEY: modified_base
     218 <222> LOCATION: (1)..(3)
    219 <223> OTHER INFORMATION: N = A, C, G OR T/U
     221 <400> SEQUENCE: 13
  -> 222 nnncctatag tgagt
     225 <210> SEQ ID NO: 14
     226 <211> LENGTH: 11
     227 <212> TYPE: DNA
     228 <213> ORGANISM: Artificial Sequence
     230 <220> FEATURE:
     231 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
    232
               Primer
     234 <220> FEATURE:
     235 <221> NAME/KEY: modified_base
     236 <222> LOCATION: (4)..(8)
     237 <223> OTHER INFORMATION: N = A, C, G or T/U
     239 <400> SEQUENCE: 14
                                                                            11
  -> 240 gacnnnnngt c
     243 <210> SEQ ID NO: 15
     244 <211> LENGTH: 12
     245 <212> TYPE: DNA
     246 <213> ORGANISM: Artificial Sequence
     248 <220> FEATURE:
     249 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
               Primer
     252 <220> FEATURE:
     253 <221> NAME/KEY: modified base
     254 <222> LOCATION: (1)..(12)
     255 <223> OTHER INFORMATION: N = A, C, G OR T/U
     257 <400> SEQUENCE: 15
                                                                            12
W--> 258 nacnnnngta cn
     261 <210> SEQ ID NO: 16
     262 <211> LENGTH: 12
     263 <212> TYPE: DNA
   264 <213> ORGANISM: Artificial Sequence
     266 <220> FEATURE:
     267 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
    · 268
               Primer
```

Input Set: A:\RUBC021USSequenceListing.APP.txt
Output Set: N:\CRF4\03222004\J797333.raw

270 <220> FEATURE: 271 <221> NAME/KEY: modified_base 272 <222> LOCATION: (4)..(9) 273 <223> OTHER INFORMATION: N = A, C, G OR T/U275 <400> SEQUENCE: 16 12 W--> 276 cgannnnnnt gc 279 <210> SEQ ID NO: 17 280 <211> LENGTH: 11 281 <212> TYPE: DNA 282 <213> ORGANISM: Artificial Sequence 284 <220> FEATURE: 285 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic Primer 288 <220> FEATURE: 289 <221> NAME/KEY: modified base 290 <222> LOCATION: (4)..(8) 291 <223> OTHER INFORMATION: N = A, C, G OR T/U 293 <400> SEQUENCE: 17 11 W--> 294 gccnnnnngg c 297 <210> SEQ ID NO: 18 298 <211> LENGTH: 10 299 <212> TYPE: DNA 300 <213> ORGANISM: Artificial Sequence 302 <220> FEATURE: 303 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic Primer 306 <220> FEATURE: 307 <221> NAME/KEY: modified_base 308 <222> LOCATION: (4)..(7) 310 <400> SEQUENCE: 18 W--> 311 gathinnatc 314 <210> SEQ ID NO: 19 315 <211> LENGTH: 11 316 <212> TYPE: DNA 317 <213> ORGANISM: Artificial Sequence 319 <220> FEATURE: 320 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic 321 Primer 323 <220> FEATURE: 324 <221> NAME/KEY: modified_base 325 <222> LOCATION: (3)..(9) 326 <223> OTHER INFORMATION: N = A, C, G OR T/U 328 <400> SEQUENCE: 19 W--> 329 commnning g 332 <210> SEQ ID NO: 20 333 <211> LENGTH: 11 334 <212> TYPE: DNA 335 <213> ORGANISM: Artificial Sequence . 337 <220> FEATURE: type of errors shown exist throughout 4.6 Sequence Listing. Please check subsequent sequences for similar errors

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/797,333

DATE: 03/22/2004 TIME: 09:38:37

Input Set : A:\RUBC021USSequenceListing.APP.txt

Output Set: N:\CRF4\03222004\J797333.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

```
Seq#:5; N Pos. 14,15,16,17
Seq#:6; N Pos. 11,12,13,14,15,16
Seq#:7; N Pos. 17,18,19,20,21
Seq#:9; N Pos. 23,24,25,26,27,28
Seq#:12; N Pos. 1,2
Seq#:13; N Pos. 1,2,3
Seq#:14; N Pos. 4,5,6,7,8
Seq#:15; N Pos. 1,4,5,6,7,12
Seq#:16; N Pos. 4,5,6,7,8,9
Sea#:17; N Pos. 4,5,6,7,8
Seq#:18; N Pos. 4,5,6,7
Seg#:19; N Pos. 3,4,5,6,7,8,9
Seq#:20; N Pos. 4,5,6,7,8
Seq#:21; N Pos. 4,5,6,7,8,9
Seq#:22; N Pos. 4,5,6,7,8,9
Seq#:23; N Pos. 4,5,6,7,8
Seq#:24; N Pos. 6,7,8,9,10
Seq#:25; N Pos. 4,5,6,7
Seq#:26; N Pos. 3,4,5,6,7,8,9
Seq#:27; N Pos. 4,5,6,7,8
Seg#:28; N Pos. 4,5,6,7
Seq#:29; N Pos. 5,6,7,8,9
Seq#:30; N Pos. 4,5,6,7,8,9,10,11,12
Seq#:31; N Pos. 4,5,6,7
Seq#:34; N Pos. 21
Seg#:35; N Pos. 1
Seg#:39; N Pos. 1
Seg#:40; N Pos. 22,23
Seg#:41; N Pos. 22
Seg#:42; N Pos. 1,2,3,4
Seq#:43; N Pos. 1,2,3,4,5
Seq#:44; N Pos. 21,22
Seg#:45; N Pos. 21,22,23
Seq#:46; N Pos. 21,22,23,24
Seq#:47; N Pos. 21,22,23,24,25
```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/797,333

DATE: 03/22/2004 TIME: 09:38:37

Input Set : A:\RUBC021USSequenceListing.APP.txt

Output Set: N:\CRF4\03222004\J797333.raw

```
L:16 M:270 C: Current Application Number differs, Replaced Current Application Number
 L:93 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
 L:111 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
 L:129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
 L:160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
 L:204 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
 L:222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:240 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
 L:258 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
 L:276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
 L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
 L:311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
 L:329 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
 L:347 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
 L:365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
 L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
 L:401 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:419 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
 L:447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0
 L:465 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0
 I:483 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0
 L:501 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
 L:519 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
 L:537 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:617 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:674 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
L:692 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:710 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
L:728 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
L:746 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
L:764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0
L:781 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0
L:799 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0
L:817 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0
```